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NOAA Administrator Lautenbacher Visits the Program

VADM Lautenbacher, Sheean Haley, and Greg Doucette

January 7th brought Vice Admiral Conrad C. Lautenbacher, Jr., the Under Secretary of Commerce for Oceans and Atmosphere and Administrator of NOAA to visit the NOS Centers in North Charleston and Fort Johnson. John Ramsdell introduced VADM Lautenbacher to the Marine Biotoxins Program, the National role for the Program, its multidisciplinary team of scientists and ten years of successful research, service and technology transfer. VADM Lautenbacher's visit then moved on to four "paybacks" from the Program's Research. Greg Doucette discussed technology transfer projects in the U.S. and Southeast Asia and planned activities in South America and SW Africa while the NOAA Administrator watched Sheean Haley conducting a receptor assay. Steve Morton brought the NOAA Administrator into the culture chambers and described our South Carolina Phytoplankton Monitoring Network. Fran Van Dolah next described operation and the many successes of the Analytical Response Team and Tod Leighfield added how our response integrates with existing capabilities of state agencies. Finally, Peter Moeller entertained the NOAA Administrator in the NMR room, describing how our analytical capabilities are used to provide toxin confirmation and identification of unknown toxins and metabolites.

Pfiesteria Research Planning Meeting Held at NCOSS Headquarters

Peter Moeller, Steve Morton, Paul Comar and John Ramsdell traveled to NCCOS headquarters for a *Pfiesteria* meeting held January 8-9. The purpose of this meeting was to provide the NCCOS Office factual information on *Pfiesteria* and its toxins to enable them to provide accurate information as an office that reflects the science of all of its different centers. In addition to the NCCOS Office (Gary Matlock and Jean Snider) were CCEHBR, CSCOR (the extramural granting center that includes Coastal Ocean Program (ECOHAB)) and CCFBR (Beaufort laboratory). The bulk of the meeting was to discuss what we know about *Pfiesteria* in the context of the public's concern (i.e, does it kill fish in the wild? is it harmful to humans in the wild?). From a series of the general questions a NCCOS *Pfiesteria* research plan will be developed in response to NOAA Administrator Lautenbacher.

Items of note relative to our Program:

♦ CCEHBR will continue to conduct the *Pfiesteria* toxin work in NOAA.

♦ NCCOS is fully supportive of the *Pfiesteria* toxin patent.

♦ NCCOS *Pfiesteria* research will be aligned to the National Plan for Marine Biotoxins and Harmful Algae.

In This Issue

New SCIEX API-4000

The SCIEX API-4000 is one of two new triple quadrupole mass spectrometers. This machine is the latest update of the SCIEX API-III that has served the Program for the past decade. The instrument is constructed with elements that should allow uninterupted operation, without the need for lengthy vacuum "recycle" and maintainence shutdowns. Unlike the API-III, control of the API-4000 and interpretation of data is now achieved with a modern data system. The API-4000 is interfaced to an Agilent HPLC system for LC-MS operation. The improved electronics in the API-4000 should allow faster analysis of samples. A preliminary evaluation of domoic acid analysis on the API-4000 indicates that, while the instrument is not configured to perform high throughput analysis, it could allow about eight times the sample throughput of the older API-III. The instrument is located in HML Room D212. Come and take a look!

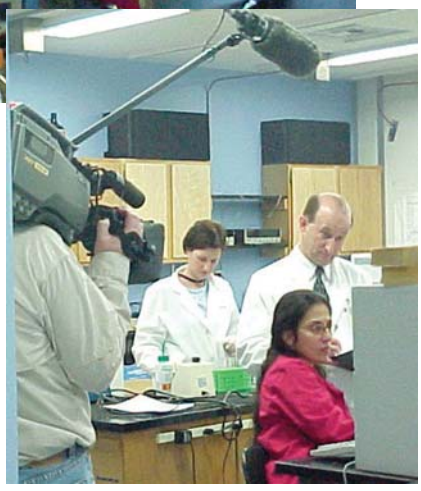
SCIENTIST SPOTLIGHT:
Tricia Blair

Tricia is currently studying the microbial interactions that occur during a *Karenia brevis* bloom. These include identifying algicidal bacteria as well as isolating and characterizing bacteria which may be conferring resistance to certain *K. brevis* isolates. This project is her thesis work for her masters in marine biology at the Graduate School of the College of Charleston.

Tricia completed her BA in Biology and BS in Environmental Science at West Virginia University. She then spent three years teaching coastal ecology at the Marine Science Consortium, Inc. in Chincoteague, VA. She will most likely remain in the Carolinas when she graduates in 2004.

Pfiesteria Toxin Research Filmed for Discovery Channel's Diagnosis Unknown

The film crew from New Dominion Pictures visited CCEHBR January 22 to film a new segment for the Discovery Channel's series Diagnosis Unknown. Diagnosis: Unknown is a factual, exciting account of how organisms sometimes too small to be seen by the naked eye can challenge the best technology and medicine. The series airs worldwide and shows in the U.S. on Wednesdays at 8 pm and Saturdays at 10 pm on the Discovery Health Channel. This years' series is scheduled for twelve-one hour documentaries that include *Pfiesteria*, West Nile, *E. coli* among other health concerns. Camera, lights and sound crews designed sets in the Marine Biotoxins laboratories for the shooting. Director Jeff Fine directed scientist interviews and three re-enactments of key research breakthroughs. Among the NCCOS scientists contributing to the filming were Jennifer Maucher, Yasmine Bottein, Jamie Colman, Steven Eaker, Peter Moller, Ricky Woofter, Lorainne Creel, Mike Twiner and John Ramsdell. The film crew has previously filmed segments with medical teams from University of Marlyand and Duke University. The show is scheduled to air later this spring.



Top:
Jen Maucher and Yasmine Bottein preparing cell based assay

Right:
Loranne Creel, Yasmine Bottein, and John Ramsdell analyzing data

Upcoming Meetings

The Gordon Conference on Mycotoxins and Phycotoxins will be held June 15-20, 2003 at Colby College in Waterville, Maine. Fran Van Dolah and Ron Riley serve as co-chair for this year's conference. Gordon Research Conferences are expected to be on the frontiers of science in their field. Their purpose is to define and analyze important problems, recent advances, and opportunities for new research through both formal presentations and extensive discussions. The Gordon Conference format, with carefully selected presentations and ample time for discussion, has been proven to be effective for promoting the exchange of information and building strong relationships between scientists. The preliminary program can be found at: http://www.grc.uri.edu/programs/2003/mycphyco.htm.

The Satellite Workshop to the Gordon Conference topic for this year is "Field Portable and Confirmatory Assay Technologies for Mycotoxins and Phycotoxins" will be held on June 13 14, 2003 at Mount Desert Island Biological Laboratory Salsbury Cove, ME. Steve Musser and Mark Poli serve as co-organizers for this workshop. The goal of this workshop is to advance the development of detection methods for fungal and algal toxins by bringing together scientists from both disciplines to examine the application of new technologies and recent developments in detection methods for these toxins. The format for this workshop will be lectures in the mornings followed by "hands-on" demonstrations of rapid test methods in the afternoons. Manufacturers will be demonstrating test kits and participants are encouraged to bring their own samples for analysis. This format provides users and potential users important information on the capabilities and correct use of rapid, field portable tests. The preliminary program can be found at: U:\Swap\Marine Biotoxins.

Looking Further Ahead: The Second Symposium on Harmful Algae is scheduled for December 9 to 13 in Wood's Hole, MA. Don Anderson will chair the symposium and a steering committee that includes John Ramsdell is in the early stages of planning the program.

Bennie Haynes Receives CIYA Award

This award is in recognition of exemplary work in support of efforts to complete research on dinoflagellate gene expression. In order to successfully complete the proposed work, Bennie modified the RNA extraction procedures and was instrumental in resolving difficulties with northern blotting procedures. During this time Bennie put in long hours and worked weekends.

Four ECOHAB Grants Submitted

The Program has joined forces with our partners as principal investigators on four grant proposals for 2003 ECOHAB funding. Proposals include:

1. Fran VanDolah and Jack DiTullio (College of Charleston): *Stress responses of* Karenia brevis
2. Greg Doucette and Jan Landsberg (Florida Fish & Wildlife Conservation Commission): *Pyrodinium: A new saxitoxin threat*
3. Steve Morton and Peter Moeller and Tracy Villareal (University of Texas): *Production of G. toxicus toxin*
4. John Ramsdell and Joe Pancrazio (Naval Research Laboratory): *Cultured neuronal networks for toxin monitoring*

Autoclave Committee

The first meeting of the Autoclave Committee was held during the last week of January. This committee was formed to prepare reommendations to the CMT on the replacement, maintance and ventilation of the autoclaves housed in CCHEBR. The large Castle autoclave was recently moderized and the automatic door rebuilt. The two small autoclaves are recommended to be replaced. The committee will also help design the autoclave room to aveviate safety concerns. Members of this committee include Steve Morton (chairperson), Rick Meitzler, Jan Gooch, and John Bemiss.

SCPMN Participates in ASLO Meeting

Kate Schaeffer attended the American Society of Limnology and Oceanography (ASLO) Winter 2003 Meeting in Salt Lake City, UT from February 9-14th. The meeting was held at the Salt Palace Convention Center. Some of the other Charleston attendees included Geoff Scott, Alan Lewitus (SCDNR), Rick DeVoe (SC Sea Grant Consortium), Paula Keener-Chavis (NOAA/Office of Ocean Exploration).

The meeting began on Sunday night with an opening address by Dr. David J. Des Marais, a research scientist at the NASA Ames Research Center. Presentations were divided into four sub-themes (Historical Studies in Aquatic Sciences, Paleo Studies in Aquatic Sciences, Spatial Patterns in Aquatic Sciences, and Extreme Environments on Earth and Beyond) and further divided into more than 60 topic areas. Over 215 posters were presented.

Kate presented a poster on SCPMN to conference attendees during the education session entitled "Leave No Scientist Behind: How to Get Aquatic Sciences Into K-12 Classrooms."

Oral and poster presentations will be posted on the ASLO web page http://www.aslo.org/.

CCEHBR Renovation Update

Project manager Nicole Waybright, architect Paul Kiesel and casework designer Ben Edmunds visited 13 February to obtain additional information for the renovation design. The team visited each laboratory to make additional changes to the floor plan and speak to staff about the vertical design (cabinets, benches, shelves etc.) of the workspace. There was also discussion on how to make the hallway space more appealing and functional. The previous day, Martin Burnett met with the mechanical engineers to discuss plans to improve air flow and climate control in the laboratories. We will be expecting new set of blue prints showing some minor modifications to attached floor plan as well as a vertical view of the rooms.

Phytoplankton and First Graders

On Saturday, February 8th 2003 the South Carolina Phytoplankton Monitoring Network (SCPMN) participated in a COASTeam Aquatics Workshop at the South Carolina Aquarium. COASTeam staff made a special request of SCPMN to participate in this workshop seeing as marine plants are an integral part of South Carolina's first grade Science Curriculum Standards. This workshop focused on bringing various aspects of South Carolina's coast into first grade classrooms. Participants included 8 teachers from various elementary schools in Berkeley and Charleston counties. In a one hour session teachers learned the basic concepts of marine phytoplankton and its ecological roles to the backdrop of the aquarium's great ocean tank.

Teachers were instructed on sampling equipment and how to take a phytoplankton sample. The sample was brought back to the aquarium's classroom were it was viewed on the TV/ microscope set-up. Additional educational materials were provided for in classroom use including an Ecological Puzzle, Fashion a Phytoplankton Activity, and Marine Plankton Coloring Book. If you have any question about this workshop please contact Heather at ext. 8832 or for more information on Project Oceanica please visit http://oceanica.cofc.edu/home.htm

Heather explains the SCPMN evaluation form.

Reminder!!

Anyone can submit articles and/or suggestions for the Biotoxin Bulletin. Just email Marine.Biotoxins@noaa.gov or contact Kimberly Nowocin at extension 8835.